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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/797,162	03/10/2004	John R. Pendray	S01.12-1010/STL 11723	4071
27365	7590	11/25/2005	EXAMINER	
SEAGATE TECHNOLOGY LLC C/O WESTMAN CHAMPLIN & KELLY, P.A. SUITE 1400 - INTERNATIONAL CENTRE 900 SECOND AVENUE SOUTH MINNEAPOLIS, MN 55402-3319			RENNER, CRAIG A	
			ART UNIT	PAPER NUMBER
			2652	

DATE MAILED: 11/25/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/797,162

Applicant(s)

PENDRAY ET AL.

Examiner

Craig A. Renner

Art Unit

2652

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 September 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-38 is/are pending in the application.
- 4a) Of the above claim(s) 29-38 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-9, 12, 15-18, 20, 21 and 24-28 is/are rejected.
- 7) ☒ Claim(s) 10, 11, 13, 14, 19, 22 and 23 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 10 March 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 3/10/04 & 9/06/05.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Election/Restrictions

1. Applicant's election with traverse of "group 1, comprising claims 1-28, in the reply filed on 06 September 2005 is acknowledged. The traversal is on the following grounds:

"The applicants make this election with specific traverse of the restriction of groups 1 and 3. Specifically, it was asserted in the Office action that the combination as claimed does not require the particulars of the subcombination as claimed, because the combination does not require a 'convergent channel', a 'channel wall', a 'cavity dam', and various other elements. However, none of the elements listed is required for the subcombination as defined by claim 1, either. Therefore, these elements do not define particulars of subject matter that are required for the subcombination but not for the combination. The applicants accordingly request that examination of group 3 be included with the examination of group 1." This argument, however, is not found persuasive because dependent claims 10-11, 13-16, and 22-23, for instance, of group 1 are each evidence claims that the combination as claimed does not require the particulars of the subcombination as claimed.

The requirement is still deemed proper and is therefore made FINAL. Accordingly, claims 29-38 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to one or more non-elected inventions/species, there being no allowable generic or linking claim.

Drawings

2. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include one or more reference signs not mentioned in the description. Note, for instance, "898" (shown in FIG. 9, for instance), "1050" (shown in FIG. 10, for instance), and "1098" (shown in FIG. 10, for instance).

Corrected drawing sheets in compliance with 37 CFR 1.121(d) and/or an amendment to the specification to add the reference signs in the description in compliance with 37 CFR 1.121(b) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

3. The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5. Claims 1-9, 12, 15-18, 20-21, and 24-28 are rejected under 35 U.S.C. 102(e) as being anticipated by Pust et al. (US 6,661,605).

Pust teaches a slider (40/80) comprising a substrate (42) having a first coefficient of expansion responsive to a stimulus; a transducer (90) disposed on the substrate, the transducer having a second coefficient of expansion responsive to the stimulus that is greater than the first coefficient of expansion (lines 6-12 in column 8, for instance); and a hydrodynamic surface comprising a responsive aeroelastic deposit (68) having a third coefficient of expansion responsive to the stimulus that is greater than the first coefficient of expansion (lines 6-12 in column 8, for instance) [as per claim 1]; wherein a height of the responsive aeroelastic deposit above a portion of the hydrodynamic surface increases as the responsive aeroelastic deposit expands responsively to the stimulus (as shown in FIGS. 5-6, for instance) [as per claim 2]; wherein the responsive aeroelastic deposit shears as it expands responsively to the stimulus (as shown in

FIGS. 5-6, for instance) [as per claim 3] wherein the responsive aeroelastic deposit bends as it expands responsively to the stimulus (as shown in FIGS. 5-6, for instance) [as per claim 4]; wherein the stimulus, responsively to which the third coefficient of expansion is greater than the first coefficient of expansion, comprises heat (lines 4-12 in column 8, for instance, i.e., "higher operating temperatures" are a result of heat) [as per claim 5]; wherein the stimulus, responsively to which the third coefficient of expansion is greater than the first coefficient of expansion, comprises an electric voltage or an electric current (lines 4-12 in column 8, for instance, i.e., "higher operating temperatures" are a result of heat caused by operating electric current/voltage) [as per claim 6]; wherein the stimulus, responsively to which the third coefficient of expansion is greater than the first coefficient of expansion, comprises a magnetic field (lines 4-12 in column 8, for instance, i.e., "higher operating temperatures" are a result of heat caused by magnetic fields generated during operation) [as per claim 7]; wherein the stimulus, responsively to which the third coefficient of expansion is greater than the first coefficient of expansion, comprises electromagnetic radiation (lines 4-12 in column 8, for instance, i.e., "higher operating temperatures" are a result of heat caused by electromagnetic radiation generated during operation) [as per claim 8]; wherein the stimulus, responsively to which the third coefficient of expansion is greater than the first coefficient of expansion, comprises humidity (lines 4-12 in column 8, for instance, i.e., "higher operating temperatures" are a result of heat caused by humidity generated during operation) [as per claim 9]; wherein the responsive aeroelastic deposit comprises an above-ambient pressure formation (as shown in FIGS. 1 and 4A, for instance) [as

per claim 12]; wherein the responsive aeroelastic deposit comprises a sub-ambient pressure formation (as shown in FIGS. 3 and 5-6, for instance) [as per claim 15]; wherein the responsive aeroelastic deposit is comprised on a cavity surface of the slider (as shown in FIGS. 3 and 5-6, for instance) [as per claim 16]; wherein the responsive aeroelastic deposit is comprised on a bearing surface of the slider (as shown in FIGS. 1 and 4A, for instance) [as per claim 17]; wherein the responsive aeroelastic deposit is comprised on a side surface of the slider (as shown in FIGS. 1, 3, 4A, and 5-6, for instance, i.e., a trailing side surface) [as per claim 18]; wherein the responsive aeroelastic deposit is comprised on a trailing surface of the slider (as shown in FIGS. 1, 3, 4A, and 5-6, for instance) [as per claim 20]; wherein the third coefficient of expansion responsive to the stimulus is less than the second coefficient of expansion (lines 6-12 in column 8, for instance) [as per claim 21]; wherein the responsive aeroelastic deposit comprises a landing pad (as shown in FIGS. 1 and 4A, for instance) [as per claim 24]; wherein the responsive aeroelastic deposit has a shape and position on the hydrodynamic surface such that an expansion of the responsive aeroelastic deposit, responsively to the stimulus, causes a roll of the slider to increase (as shown in FIGS. 5-6, for instance, i.e., the depicted shape change would inherently increase roll) [as per claim 25]; wherein the responsive aeroelastic deposit has a shape and position on the hydrodynamic surface such that expansion of the responsive aeroelastic deposit, responsively to the stimulus, causes a pitch of the slider to increase (as shown in FIGS. 5-6, for instance, i.e., the depicted shape change would inherently increase pitch) [as per claim 26]; wherein the responsive aeroelastic deposit has a shape and position on

the hydrodynamic surface such that expansion of the responsive aeroelastic deposit, responsively to the stimulus, causes a lift of the slider to increase (as shown in FIGS. 5-6, for instance, i.e., the depicted shape change would inherently increase lift) [as per claim 27]; and wherein the slider faces an opposing surface (on 92) defining a fly height of the slider measured from the opposing surface to the transducer; and wherein the responsive aeroelastic deposit has a shape and position on the hydrodynamic surface such that expansion of the deposit toward the opposing surface, responsively to the stimulus, causes the fly height of the slider to increase (as shown in FIGS. 5-6, for instance, i.e., the depicted shape change would inherently increase fly height) [as per claim 28].

Claim Rejections/Considerations - 35 USC § 103

6. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Pertinent Prior Art

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. This includes Olim et al. (US 6,747,841), which teaches a slider (40) comprising a substrate (42) having a first coefficient of expansion responsive to a stimulus; a transducer (includes 46, 48, 52, 54, 56, 58, 60 and 62, for instance)

disposed on the substrate, the transducer having a second coefficient of expansion responsive to the stimulus that is greater than the first coefficient of expansion (lines 60-63 in column 1, for instance); and a hydrodynamic surface comprising a responsive aeroelastic deposit (68A, for instance) having a third coefficient of expansion responsive to the stimulus that is greater than the first coefficient of expansion (lines 5-9 in column 5, for instance).

Conclusion

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Craig A. Renner whose telephone number is (571) 272-7580. The examiner can normally be reached on Tuesday-Friday 9:00 AM - 7:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, A. L. Wellington can be reached on (571) 272-4483. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only.

Art Unit: 2652

For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Craig A. Renner
Primary Examiner
Art Unit 2652

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